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# The spin susceptibility of singlet correlated oxygen band in La2-xSrxCuO4

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## Abstract

We have shown that the unconventional temperature dependence of the static susceptibility χ(T) of the perovskite high-Tc superconductors above the superconducting transition temperature Tc can be explained in terms of two relevant band models containing the singlet-correlated oxygen band and the copper character band. The usual copper-oxygen Hamiltonian containing hopping and Coulomb repulsion terms has been reduced to an effective Hubbard-like t - t′ - t″ - Ueff model to describe the low-energy properties. The unusual behaviour of the susceptibility is due to thermally activated oxygen holes coming into the hybridization singularity peak in the density of states. A possible physical origin of Tmax in the temperature dependence of the susceptibility is discussed. © 1996 Plenum Publishing Corporation.

## Keywords

High-Tc superconductors, Hubbard model, Knight shift, Susceptibility